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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/012,462	12/12/2001	Akihiro Sasaki	TSUK 0004	8054

24203 7590 12/19/2002

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2300 NINTH STREET, SOUTH  
ARLINGTON, VA 22204

EXAMINER

CHACKO DAVIS, DABORAH

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/012,462

Applicant(s)

SASAKI ET AL.

Examiner

Daborah Chacko-Davis

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I (claims 1-6) in Paper No. 4 is acknowledged. The traversal is on the ground(s) that the claims of both groups are so intimately related that no additional search would be required. This is not found persuasive because a product defined by the process by which it can be made is still a product claim (*In re Bridgeford*, 149 USPQ 55 (CCPA 1966) and can be restricted from the process if the examiner can demonstrate that the product as claimed can be made by another and materially different process. The product as claimed by Group II (claims 7-9) can be made by another and materially different process such as reactive sputter etching.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0702270 (Tanaka et al) in view of EP 0738745 (Hagiwara et al).

Tanaka, in the abstract, on page 13, lines 57-58, on page 14, lines 1-16, on page

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15, lines 5-7, and lines 9-30, and on page 17, lines 3-20, discloses a photosensitive resin composition that is spin-coated onto the silicon substrate and dried to a thickness of about 10 $\mu$  to form a polyimide film that has a residual stress of about 25 MPa, wherein the polyimide film is subjected to exposure to actinic rays that has a wavelength ranging from 200 to 500nm followed by a development and rinsing process, after which the developed pattern is heated so as to heat the composition to form a pattern having a high heat resistance (claims 1, and 4). Tanaka, on page 12, lines 44-58, discloses that the aromatic polyimide composition is soluble in aqueous alkaline solutions (claim 3).

The difference between the claims and Tanaka is that Tanaka does not disclose that the polyimide deposited on the substrate has a transmittance of at least 5% at a wavelength of 365 nm (claim 2). Tanaka does not disclose that the light source used for exposure are i-lines (claim 5).

Hagiwara, on page 9, lines 16-32, on page 13, lines 19-29, on page 20, lines 14-16, and on page 21 table 2, discloses that the polyimide precursor coating is exposed using an i-line stepper as the source and that the polyimide precursor has a transmission of at least 5% at 365nm.

Therefore, it would be obvious to a skilled artisan to modify Tanaka by employing the method of exposing the polyimide precursor as taught by Hagiwara because Tanaka employs the range of an i-line stepper for the exposure process and uses a polyimide precursor as the coating on the silicon substrate and Hagiwara, on page 22, lines 1-9, discloses that using the polyimide precursor results in good transmittance and is suitable for preparing a photosensitive resin composition that has excellent image

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formation with an i-line stepper, and excellent mechanical properties and thermal properties such as high heat resistance.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0702270 (Tanaka et al) in view of EP 0738745 (Hagiwara et al) as applied to claims 1-5 above, and further in view of U. S. Patent No. 6,428,399 (Tanabe et al).

Tanaka in view of Hagiwara is discussed in paragraph no. 3.

The difference between the claim and Tanaka in view of Hagiwara is that Tanaka in view of Hagiwara does not disclose that the silicon substrate has a diameter of at least 12 inches.

Tanabe, in col 2, lines 46-50, discloses that the silicon substrates used for making devices have a diameter of about 12 inches.

Therefore, it would be obvious to a skilled artisan to modify Tanaka in view of Hagiwara by employing a substrate with dimensions suggested by Tanabe because Tanabe, in col 2, lines 46-50, discloses that using 12 inches diameter silicon wafer enables the growth of big single crystals (with a wide section) easily.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (703) 306-5923. If the examiner is unavailable, you may contact her supervisor, Mark F. Huff at (703) 308-2464. FAX communications should be sent to the appropriate FAX

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number; (703) 872-9311 for After Final Responses only or (703) 872-9310 for all other responses. FAXES received after 4:00 P.M. will not be processed until the following business day.

dcd



December 14, 2002.



**MARK F. HUFF**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**